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## (54) DIRECTIONAL LOUDSPEAKER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a loudspeaker with directivity that can optionally change directions and positions of a region where sound can hardly be listened to and a plurality of regions where different sound can be heard.

**SOLUTION:** In the loudspeaker with directivity, 1st and 2nd speakers (1a, 1b) are placed side by side at an interval of  $1/8$  to one wavelength with respect to an emitted sound wave and emit the sound wave including 1st and 2nd acoustic signal components. First and second digital filters (3a, 3b) are respectively interposed between the 1st and 2nd acoustic signal sources (1a, 1b) and the 2nd and 1st speakers so as to cancel the 1st and 2nd acoustic signal components in the sound waves emitted from both the speakers in different regions in the listening space through interference between the sound waves. First and second filter coefficient revision means (1-m, 1-n) can optionally change the filter coefficients of these filters thereby controlling directions and positions of canceling points (Pa, Pb) and regions (A, B).

